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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,028	BOCKER ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 October 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2 and 4-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claims 1-2 and 4-20 are pending.

Claim Interpretation

1. Some of the claims, e.g., claim 7, R³, define the species of the alternative subgenus, e.g., R³, R⁴, R⁵; without defining the genus, e.g., R², as said species. Said claim reads on the full scope of the remaining alternative subgenus, e.g., R⁴ and R⁵, as well as the limited species, e.g., R³.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-2 and 4-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants incorporate in claim 1, the limitation that “the at least one active defoaming substance (A) is not the same as the oil-in-water emulsion (B)”. It is unclear how said components differ and how the skilled artisan would distinguish said difference in the claimed compositions.

The metes and bounds of the claims are indefinite since it is unclear what is the scope of “at least one active defoaming substance”. Applicants (pages 10 of the October 2, 2006 response) assert the oil-in-water emulsions claimed show no antifoaming activity. This seems inconsistent with the facts that the same data shows that the commercial defoamer 3 showed similar results and is characterized by

applicants as a defoamer. Furthermore, said showing is not commensurate in scope with the claims and no explanation has been provided why the skilled artisan would extrapolate the three emulsions provided in the examples to the scope of the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 4-5, 7-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Dow Corning Toray Silicone Company, Ltd., EP 0 761 724 A2. Dow '724 (column 11, example 2) discloses emulsions of polydimethylsiloxane gum with a viscosity of 10,500,000 centistokes and a particle size of less than 0.4 microns. Dow '724 (column 8, lines 36 et seq) discloses organopolysiloxanes reading on those claimed, wherein R² is R⁵, which is R¹ and a + b is about 2.

While the compositions are not characterized as aqueous defoamer emulsions, polydiorganosiloxanes are well known for defoaming efficacy. Said property would have been expected to have been inherent. Where a composition is otherwise anticipated based on structure, it is reasonable to conclude that said composition would have the same properties. A compound or composition and all of its properties are generally inseparable. *In re Papsech*, 315 F2d. 381, 137 USPQ 43, (CCPA 1963).

Dow '724 (example 2) discloses the addition of the polydimethylsiloxane emulsions to the emulsifier and isoparaffin, which reads on at least one defoaming

substance claimed (see page 2, last paragraph, instant specification). The emulsion formation disclosed in Dow '724 reads on the step of adding claimed in claim 11 since at least some of the oil would be dispersed upon emulsion formation. Dow '724 (column 6, lines 42-54) discloses concentrates.

Dow '724 (column 1, lines 8-11 and 52 et seq) disclose the polydimethylsiloxane emulsions are widely used in industry as lubricants, fiber treatment agents, cosmetic bases and paint additives. The preamble of claims 13, 14, and 15 do not distinguish the otherwise anticipated compositions. Furthermore, the polydimethylsiloxane is a dispersed polymer and paints would inherently contain polymers, e.g., latex paints.

The intended use in the preamble has been considered, the components are defined structurally, the intended use is not required for the claimed compositions, and said intended use is given little or no patentable weight. See MPEP 2111.02(II). The claim is defined structurally and therefore the intended use in the preamble does not impart any patentable distinction to the already defined structure.

See Dow '724 (column 1, lines 8-11 and 52 et seq; and column 10, lines 1-5) disclose the polydimethylsiloxane emulsions are widely used in industry as lubricants, fiber treatment agents, cosmetic bases and paint additives and may be used directly for such applications and defoamers and lubricants. As liquid lubricants cool as well as lubricate, the cooling would have been clearly inherent.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 11, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dow Corning Toray Silicone Company, Ltd., EP 0 761 724 A2. Dow '724 discloses the claimed compositions and methods as set forth in the above anticipation rejection.

To the extent Dow '724 differs from claims 11 and 12 in the adding to a defoamer emulsion, the "selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results". See MPEP 2144.04(IV)(C). It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to add the polydimethylsiloxane to the remaining emulsion components, which would form at least a coarse emulsion and would improve in stability upon processing as disclosed in the Dow '724 reference.

9. Claims 1-2 and 4-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schulz, Jr. et al, US 5,811,487.

Schulz, Jr. et al (abstract, examples and claims) discloses the formation of silicone elastomeric paste forming emulsions having a viscosity on the order of $1.82 \cdot 10^6$ mPas, $4.93 \cdot 10^6$ mPas, and $2.7 \cdot 10^6$ mPas.

The organopolysiloxane emulsions would function as a defoamer emulsion since siloxanes and hydrophobic solids are well known to have foam inhibiting properties. Furthermore, Schulz, Jr. et al (column 9, lines 26 et seq) discloses the silicones are useful as carriers in the organic phases of antifoams as well as paints and coatings. Applicants (page 2, last paragraph, instant specification) define silicone oil as at least one active defoaming substance. It is noted that silicones are dispersed polymers.

The particle size of the emulsions would have been inherent to form emulsion characterized as having excellent aesthetics and stability in the Schulz, Jr. et al reference.

To the extent the Schulz, Jr. et al reference differs from the claims in the specific or explicit disclosure of the addition of the elastomeric silicone to a defoamer emulsion having at least one defoaming substance, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the elastomeric silicones of Schulz, Jr. et al as a carrier in the organic phase of known defoamer emulsions for the advantage of more effectively carrying the organic phase of the defoamer. The incorporation in a defoamer emulsions is a conventional form of commercial defoamers as noted by applicants and clearly contemplated in the Schulz, Jr. et al references.

10. Claims 1-2 and 4-20 are rejected under 35 U.S.C. 103(a) as obvious over Schulz, Jr. et al, US 5,811,487, further in view of Ebbrecht et al, US 2004/0137804.

Schulz, Jr. et al (abstract, examples and claims) discloses the formation of silicone elastomeric paste forming emulsions having a viscosity on the order of $1.82 \cdot 10^6$ mPas, $4.93 \cdot 10^6$ mPas, and $2.7 \cdot 10^6$ mPas as set forth above.

To the extent that Schulz, Jr. et al differs from the claims in the explicit disclosure of a defoaming utility in cooling lubricants, Ebbrecht et al (claims) discloses organosiloxanes having use in cooling lubricants, polymer dispersions, and coatings. These references are combinable since they teach organopolysiloxane emulsions and their uses. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to the materials of Schulz, Jr. et al as a carrier in the breadth of compositions as set forth in Ebbrecht et al for their advantageous hydrophobic carrier function.

Response to Arguments

11. Applicant's arguments filed 20 November 2007 have been fully considered but they are not persuasive.

12. Applicants (page 8) assert the "at least one active defoaming substance" and the "oil-in-water emulsion" of claim 1 are separate and distinct elements of the invention. This has not been deemed persuasive since while stated in the claim to be "not the same", there is nothing in the claim of how said materials differ, e.g., weight, isomeric structure of formula (I), concentrations, or some other unspecified difference.

Applicants' analogy regarding a salt solution is misplaced since the saline solution may be separated into water and salt. When (A) is an emulsion (particularly an organopolysiloxane emulsion) and (B) is claimed as an emulsion of formula 1 and

water, it is unclear how the skilled artisan would distinguish the two components. It is unclear that the organopolysiloxanes of (A) can be separated from (B). It is unclear that the aqueous phase of (A) can be separated from that of (B).

Applicants assert (paragraph bridging pages 8 and 9) assert that one having ordinary skill in the art would be able to determine based on the description of (B), determine whether (A) is the exact same composition as (B). This is not deemed persuasive since not the same as (B) includes two emulsions differing in the concentration of the siloxane. They are not the same but when mixed as is necessarily true in the claimed compositions, would be indistinguishable.

Applicants' comments regarding breadth does not address the rejection under indefiniteness.

Applicants further assert that significant foam was observed for all emulsions and defoamers employed alone. This has not been probative to show that the emulsions lack defoaming efficacy of the claimed emulsion (B) since the emulsions set forth in the examples, *i.e.*, emulsions 1-3 do not define all the emulsion components and at least two include cross-linked polysiloxanes, which would be unexpected to be self dispersible. Page 6, last paragraph of the specification discloses methods known from the prior art in making said emulsions. A review of said methods includes the use of surfactants/emulsifiers including the art known high foaming ionic, *i.e.*, anionic and/or cationic surfactants. The examples and the claims do not specify concentration and/or type of surfactant/emulsifier employed and would be expected to read on a variety of emulsions.

In conclusion, applicants' recitation of the data set forth on page 10 without adequate explanation of the compositions employed and measured to generate said data is not deemed probative for applicants' assertions.

13. Applicants' reference to the telephonic interview is concluded to refer to that of August 31, 2006 and refers to (A) and (B) as indistinct.

14. Applicants (page 10) assert that based on the data on page 10 of the instant specification, the oil-in-water emulsion and the at least one active defoaming substance are not the same. This has not been deemed persuasive since it is unclear what are the emulsions being tested on page 10. Please see preceding paragraph referring to the significant foam was observed for all emulsions and defoamers employed alone.

Furthermore, it is unclear why one skilled in the art would extrapolate the limited and incomplete data¹ set forth on pages 9 and 10 to the scope of the instant claims and the prior art disclosure.

15. Regarding applicants' first point (page 11), the data at page 10 has been addressed herein above.

16. Regarding applicants' second point (page 11) that the emulsion consist of only the polysiloxane having a viscosity of \geq about $1\cdot10^6$ mPas and water appears inconsistent with the claims that employ open transitional language, *i.e.*, "comprising", and the specification that discloses at the bottom of page 6 references that describe methods of making the emulsions. All of these references employ emulsifying agents. Furthermore and as pointed out above, the emulsions set forth in the examples employ

polysiloxanes that have only hydrophobic substituents. These clearly would not be expected to self disperse in an aqueous phase without the aid of an emulsion stabilizer, i.e., emulsifier and/or surfactant.

17. Regarding Applicants' third point (page 11) that the Dow Corning reference does not show any combination of polysiloxane with a further component like a defoamer has not been deemed persuasive. Dow Corning (column 9, lines 14-16; and column 10, lines 1-5) explicitly disclose the optional use of silica, which is a known defoaming agent in combination with polysiloxanes and Dow Corning further teaches the disclosed emulsions according to Dow Corning invention may be used directly for applications including defoaming. Furthermore, isoparaffin is a known defoamer. The breadth of the claims do not distinguish based on the language, "at least one active defoaming substance".

18. Applicants (page 11) assert the reasoning pertaining to Dow Corning is also applicable regarding the Schultz, Jr et al reference. This has not been deemed persuasive for the reasons as set forth above and said reasons have been addressed above and are incorporated herein by reference.

19. Regarding applicants' first (paragraph bridging pages 11 and 12) argument that the Schultz, Jr et al reference discloses cross-linked polysiloxanes, which are different than the siloxanes used in the applicants' oil-in-water emulsion. Applicants' claims make no mention of cross-linking or lack thereof and applicants' arguments appear inconsistent and opposite of applicants' declared to disclosure. More specifically,

¹ It is the examiner's position that since the emulsions set forth only the polysiloxanes having only

applicants exemplified emulsions 1 and 3, which are explicitly disclosed on pages 7 and 8 of the original disclosure as cross-linked siloxanes.

20. Regarding applicants' second (page 12) argument that the Schultz, Jr et al reference discloses swellable siloxanes by addition of low molecular weight siloxanes or organic fluids to form a paste having the claimed viscosity is not equivalent to the siloxanes alone. This has not been deemed persuasive. The low molecular weight siloxane or organic fluid are diluents for the high viscosity siloxanes, which would be expected to reduce the viscosity of the high viscosity siloxanes rather than reduce it. The claims are directed to at least one organosiloxane compound having a viscosity of greater than or equal to about $1 \cdot 10^6$ mPas. Clearly, if the past is greater than about $1 \cdot 10^6$ mPas, the organopolysiloxane would be expected to be greater than about $1 \cdot 10^6$ mPas in the absence of the low molecular weight siloxane or organic fluid.

21. Applicants' third argument (page 12) that the examiner reliance on inherency and no nexus has been provided to modify the thickening compositions of the Schultz, Jr et al reference for defoamer applications has not been deemed persuasive. It is a well known tenet in patent law that if a composition is the same, it is expected to have the same properties. A compound and all of its properties are generally inseparable. *In re Papsech*, 315 F2d. 381, 137 USPQ 43, (CCPA 1963).

Furthermore, the recent KSR decision forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. Please see the Board of Appeals decision *Ex parte Smith*, USPQ2d, slip op at 20, (Bd.

Pat. App. & Interf. June 25, 2007) (citing *KSR*, 82 USPQ2d at 1396) (available at <http://www.uspto.gov/web/offices.dcom.bpai/prec/fd071925.pdf>).

22. Applicants assert (page 12) the arguments presented regarding the previously addressed rejection by Dow Corning are also applied to claims 11, 12, and 20. This has not been deemed persuasive and said arguments have been addressed above.

23. Applicants (pages 12 and 13) assert the showing of unexpected results obviates any *prima facie* case of obviousness. This has not been deemed persuasive for the following reasons: (1) the data for said results is deemed to be incomplete and it is unclear what is compared, (2) the data is not commensurate in scope with the claimed subject matter, and (3) applicants have not adequately addressed why the skilled artisan would extrapolate the limited and incomplete showing to the broadly claimed compositions and methods.

24. Applicants assert (page 13) the Ebbrecht reference does not correct the deficiencies of the Schultz, Jr et al reference. This has not been deemed persuasive for the reasons addressed above regarding the Schultz, Jr et al reference.

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel S. Metzmaier/
Primary Examiner, Art Unit 1796